

ANTENNA CONFIGURATIONS FOR REDUCED RADAR COMPLEXITY

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a Continuation-in-Part of and claims the benefit of U.S. Patent Application No. 10/376,179 filed February 27, 2003, which is a Continuation-in-Part of and claims the benefit of U.S. Patent Application No. 10/293,880, filed November 13, 2002, which is a Continuation-in-Part of and claims the benefit of U.S. Patent Application No. 09/932,574, filed on August 16, 2001, which are each hereby incorporated by reference.

STATEMENTS REGARDING FEDERALLY SPONSORED RESEARCH

Not applicable.

FIELD OF THE INVENTION

This invention relates to a transmit/receive system and more particularly to a transmit/receive system which utilizes an array antenna having asymmetric transmit and receive antennas.

BACKGROUND OF THE INVENTION

As is known in the art, there is an increasing trend to include radar systems in commercially available products. For example, it is desirable to include radar systems in automobiles, trucks, boats, airplanes and other vehicles. Such radar systems must be compact and relatively low cost.

Furthermore, some applications have relatively difficult design parameters including restrictions on the physical size of the structure, as well as minimum operational performance requirements. Such competing design requirements make the design of such radar systems relatively challenging. Among the design challenges is the challenge to provide an antenna system which meets the design goals of being low cost, compact and have relatively high performance.

In automotive radar systems, for example, cost and size considerations are of considerable importance. Furthermore, in order to meet the performance